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April 29, 1999

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-A35
Washington, D.C. 20554

RE: Petition for Rulemaking

Dear Ms. Salas:

KFBB Corporation, L.L.C., through counsel, hereby files the enclosed Petition for Rulemaking To Amend the DTV Table of Allotments to allot Channel 8 to Great Falls, Montana, as the DTV channel for station KFBB-TV.

Please contact the undersigned if you need any further information.

Sincerely,

Kenneth C. Howard, Jr.
Jennifer Dine

Enclosure

No. of Copies rec'd 0+4
List A B C D E

MMB

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

Amendment of 47 C.F.R. § 73.622	)
Digital Television Table of Allotments	)
	)

To: The Commission

Petition for Rulemaking To Amend the DTV Table of Allotments

1. KFBB Corporation, L.L.C. ("KFBB"), licensee of television station KFBB-TV, Great Falls, Montana, through counsel, hereby files this Petition for Rulemaking To Amend the DTV Table of Allotments, 47 C.F.R. § 73.622. Specifically, KFBB petitions the Commission to allot Channel 8 to Great Falls as the DTV channel for KFBB-TV, in place of the current allotment of Channel 39. KFBB-TV currently broadcasts on Channel 5.

2. Although the Commission last year denied KFBB's Petition for Reconsideration requesting that it change the KFBB-TV's DTV allotment from Channel 39 to Channel 8, it did so on the grounds that the channel change would create impermissible interference to other stations. See In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, Memorandum Opinion & Order on Reconsideration of The Sixth Report and Order, 13 FCC Rcd 7418, 7587 (February 23, 1998). KFBB's Petition for Reconsideration had indicated that interference was predicted to 18 people. However, the rule regarding interference and changes to DTV allotments was amended on March 20, 1998, a month after the Commission's Order, and KFBB's proposed channel change is permissible under the amended rule. See 47 C.F.R. § 73.623(c)(2).

3. At the time the Commission denied KFBB's Petition for Reconsideration, Section 73.623 stated that requests to change DTV allotments "must demonstrate that there is no increase in the amount of interference caused to any other DTV broadcast station, DTV allotment, or analog TV broadcast station." 47 C.F.R. § 73.623(c)(2) (1997). Section 73.623, as amended, requires that requests to change DTV allotments "must demonstrate that the requested **change would not result in more than an additional 2 percent [of] the population served by another station being subject to interference**; provided, however, that no new interference may be caused to any station that already experiences interference to 10 percent or more of its population or that would result in a station receiving interference in excess of 10 percent of its population." 47 C.F.R. § 73.623(c)(2) (1998). (*emphasis added*).

4. As was standard engineering procedure under the rule in effect when KFBB filed its Petition for Reconsideration, KFBB used the Longley-Rice algorithm to predict interference. The Longley-Rice algorithm predicted that KFBB's proposed change would impact 18 people.

5. As is required under the current rule, KFBB used the OET-69 method to predict interference.[1] The OET-69 method predicts KFBB's proposed changes would impact **zero persons**. See Exhibit A at 1.

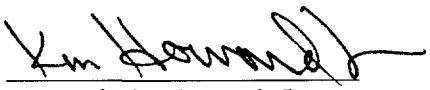
6. Both methodologies indicate that KFBB easily satisfies the interference standard under the current rule, Section 73.623(c)(2). Although any interference whatsoever, even a predicted *de minimus* 18 people under the Longley-Rice algorithm, was enough to render KFBB-TV's requested change impermissible under the rule in effect when its Petition for Reconsideration was denied, the OET-69 method's prediction of **interference to zero people**

[1] The current rule 47 C.F.R. § 73.623(c)(2) states that "interference to populations served is to be predicted based on the procedure set forth in *OET Bulletin No. 69*."

fully satisfies the current standard permitting interference to up to 2 percent of the population served by another station.

7. Accordingly, KFBB requests that the Commission amend the DTV Table of Allotments to allot Channel 8 to KFBB-TV, Great Falls, Montana.

Respectfully submitted,



Kenneth C. Howard, Jr.
Jennifer Dine

Counsel for KFBB Corporation, L.L.C.

Baker & Hostetler, LLP
1050Connecticut Ave., N.W.
Suite 1100
Washington, D.C. 20036-5304

Telephone: (202) 861-1500

April 29, 1999

Enclosure

CERTIFICATE OF SERVICE

I, Elda Eckles, a secretary at Baker & Hostetler LLP, hereby certify that on this 29th day of April, 1999, a copy of the foregoing Petition for Rulemaking To Amend the DTV Table of Allotments was hand-delivered to the following:

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-A325
Washington, D.C. 20554

Mania Baghdadi, Assistant Chief
Policy & Rules Division
Mass Media Bureau
Federal Communications Commission
445 12th Street, S.W.
Room 2-C264
Washington, D.C. 20554

Gordon Godfrey
Policy & Rules Division
Mass Media Bureau
Federal Communications Commission
445 12th Street, S.W.
Room 2-C120
Washington, D.C. 20554

Elda Eckles

EXHIBIT A

KFBB Corporation, LLC
Station KFBB-TV
Great Falls, Montana

Engineering Exhibit in Support of Petition for Rulemaking

April 12, 1999

HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

Station KFBB-TV • Great Falls, Montana

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by KFBB Corporation, LLC, licensee of Station KFBB-TV, Channel 5, Great Falls, Montana, to prepare an engineering exhibit in support of its petition for rulemaking to amend the DTV Table of Allotments, Section 73.622(b), to replace the DTV Channel 39 allotment at Great Falls with DTV Channel 8.

Background

Station KFBB-TV is presently licensed to operate on NTSC Channel 5, serving Great Falls, Montana, with omnidirectional transmitting facilities of 100 kilowatts peak visual effective radiated power at a height above average terrain of 180 meters. In the *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket 87-268, adopted February 23, 1998, the Commission assigned DTV Channel 39 to KFBB-TV. The specified parameters of the DTV Channel 39 operation were 1,000 kilowatts average effective radiated power (ERP) at 180 meters height above average terrain (HAAT), using a directional antenna pattern derived from the omni-directional operation of the KFBB-TV NTSC facility, adjusted for F(50,90) service at UHF. The station is concerned about the high cost of constructing and operating such a high-power UHF facility.

Allocation Conditions for DTV Channel 8

An allocation study was conducted at the KFBB-TV site, to determine if a vacant VHF channel exists that meets the interference requirements specified in Section 73.623(c).* DTV Channel 8 was studied at 160 kW ERP, this being the maximum effective radiated power level permitted for a fully-spaced operation at the existing HAAT of 180 meters. Using the OET-69 method, described more fully in Figure 1 attached, interference to all NTSC operations and DTV allotments (including Canadian† operations) is calculated to occur to *zero* persons, when rounded to the nearest thousand. A summary of the allocation study is contained in Figure 2 attached.

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* An April 7, 1999, telephone conversation with Mr. Gordon Godfrey of the Commission's Engineering Policy Branch, indicates that requests for changes to the initial Table of DTV Allotments are subject to evaluation under Section 73.623(c) (interference analysis), rather Section 73.623(d) (spacing). So, only the interference analysis is being presented here.

† The KFBB-TV site is located 162 kilometers from the common border between the U.S. and Canada, so it is presumed that the requirements of a forthcoming bilateral agreement will apply; although specific requirements are not yet available, it has been assumed that the interference protection analysis methods (*i.e.*, OET-69) contained in the Commission's rules would apply equally to Canadian stations and allocations.

Section 73.623 requires coverage of the principal community, which is assured for KFBB-DT, given the location of the KFBB site so close to Great Falls. Figure 3 attached shows the projected 36 dBu F(50,90) coverage contour for KFBB-DT on Channel 8, clearly encompassing the city of license.

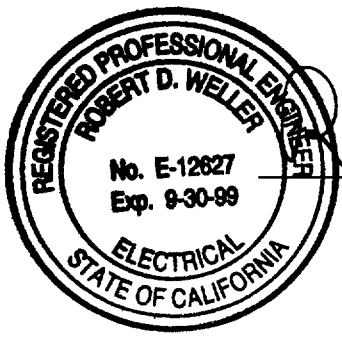
Summary

Operation of KFBB-DT on DTV Channel 8 from the KFBB-TV site with 160 kW ERP meets the FCC Rules for protection of NTSC operations and DTV allotments from interference and for service of the principal community.

List of Figures

In carrying out these engineering studies, the following attached figures were prepared under my direct supervision:

1. TVIXSTUDY™ methodology
2. Summary of OET-69 interference study
3. Map of proposed KFBB-DT coverage.



Robert D. Weller, P.E.

April 12, 1999

Affidavit

State of California
County of Sonoma | ss:

Robert D. Weller, being first duly sworn upon oath, deposes and says:

1. That he is a qualified Registered Professional Engineer, holds California Registration No. E-12627 which expires September 30, 1999, and is employed by the firm of Hammett & Edison, Inc., Consulting Engineers, with offices located near the city of San Francisco, California,

2. That he graduated from The University of California, Berkeley, in 1984, with a Bachelor of Science degree in Electrical Engineering and Computer Science, was an electronics engineer with the Federal Communications Commission from 1984 to 1993, with specialization in the areas of FM and television broadcast stations, cable television systems and satellite systems, and has been associated with the firm of Hammett & Edison, Inc., since June 1993,

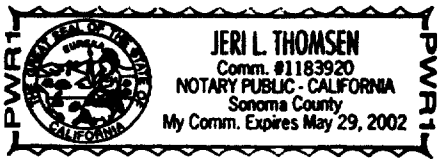
3. That the firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by KFBB Corporation, LLC, licensee of Station KFBB-TV, Channel 5, Great Falls, Montana, to prepare an engineering exhibit in support of its petition for rulemaking to amend the DTV Table of Allotments, Section 73.622(b), to replace the DTV Channel 39 allotment at Great Falls with DTV Channel 8,

4. That he has carried out such engineering work and that the results thereof are attached hereto and form a part of this affidavit, and

5. That the foregoing statement and the report regarding the aforementioned engineering work are true and correct of his own knowledge except such statements made therein on information and belief and, as to such statements, he believes them to be true.

Robert D. Weller, P.E.

Subscribed and sworn to before me this 12th day of April, 1999



TVIXSTUDY™ Analysis Methodology

Implementation of FCC's Interference-Based Allocation Algorithm

On April 21, 1997, the Federal Communications Commission released its Fifth and Sixth Report and Order texts to Mass Media Docket No. 87-268, establishing a final Table of Allotments for the transition from analog NTSC television service to a digital television ("DTV") service. The Commission utilized a complex set of computerized analysis tools to generate the DTV allotment table and added FCC Rules Section 73.623(b)(2), requiring that similar tools be employed to analyze individual DTV station assignments with regard to their potential interference to other DTV stations, DTV allotments, and existing or authorized NTSC facilities. Those tools were described in FCC OET Bulletin No. 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference* ("OET-69"), released on July 2, 1997. Subsequent to OET-69, the Commission released, on February 23, 1998, its Memorandum Opinion and Order on Reconsideration of the Fifth [and Sixth] Report and Order[s], which made a number of changes to the previous allotment table and modified several of the analysis methods to be employed for studying DTV allotments and potential facility modifications. On August 10, 1998, the Commission published a text, *Additional Application Processing Guidelines for Digital Television (DTV)*, which provided important clarifications and enhancements to the specified analysis methods. Hammett & Edison has developed and refined the TVIXSTUDY computer software to perform FCC-style DTV allocation studies as based on OET-69, its subsequent clarifications, and also upon a detailed examination of the FCC allotment program software source code.

For most NTSC or DTV stations to be studied, the FCC analysis model first determines the location of the conventional F(50,50) Grade B contour of the NTSC station, or of the NTSC station associated with an assigned DTV station, using pattern information contained in the FCC engineering database and an assumed antenna elevation pattern. The model assumes that contour as an envelope, outside of which no protection from interference is implied or afforded. The location of the Grade B contour was used to determine the assigned power for the DTV station, once again using conventional methods found in FCC Rules Section 73.699, Figures 9 and 10, determining the power necessary on a radial basis to generate the associated DTV coverage contour (41 dBu for UHF, 36 dBu for high VHF Channels 7–13, and 28 dBu for low VHF Channels 2–6), for an assigned DTV channel. The maximum power determined using this method was assigned as the DTV operating power, provided it was calculated to be above established minimum power levels; otherwise, a minimum power level was assigned. By the same token, facilities with calculated DTV power levels above the established maximum power levels for a given channel were assigned the maximum power level. The use of this method usually creates a directional DTV antenna replication pattern, even for DTV assignments to presently omnidirectional NTSC TV stations. The FCC requires that a DTV facility employ an antenna design that meets the calculated replication envelope parameters, unless, with a few exceptions, zero or *de minimus* new interference to other facilities can be demonstrated.

In addition to the use of the Grade B envelope and an assumed directional transmitting antenna for all DTV facilities, the model assumes the use of directive receiving antennas at each studied location, or "cell." The characteristics of the receiving antennas are different, not only for the low

VHF, high VHF, and UHF frequency bands, but also for NTSC and DTV receiving situations; the FCC model specifies that more directive antennas be employed for analysis of DTV reception.

The FCC analysis technique employs terrain-sensitive calculation methods based on Version 1.2.2 of the ITS Irregular Terrain Model, also known as the Longley-Rice model. For each NTSC or DTV station to be studied, a grid of cells, two kilometers on a side, fills the associated Grade B or noise-limited contour. The program first determines which of the cells is predicted to receive service from the associated station, using Longley-Rice analysis with F(50,50) statistical weighting for NTSC and F(50,90) statistical weighting for DTV stations. Cells determined to have no service are not studied for interference from other stations.* Once cells having service are determined, the software analyzes potential interference from other NTSC or DTV stations, again using the Longley-Rice propagation algorithm and defined statistical weighting for all potential interfering signals. Each cell is evaluated, as appropriate, using the desired-to-undesired ratios and methods presented in FCC Rules Section 73.622, 73.623, and 74.706 for each channel relationship, and cells determined to have interference are flagged and excluded from further study, resulting in the generation of net interference-free coverage population totals.

The TVIXSTUDY analysis program employs all of the OET-69 analysis features described above, as well as several other more subtle elements prescribed by the FCC. Additionally, the program allows modeling of implementation scenarios that involve changes to effective radiated power, antenna height, antenna pattern, channel number, and/or transmitter location. TVIXSTUDY also can identify cells that fall in major bodies of water, as based on digitized map data, excluding them from the study. The program is primarily intended to study the effects of existing/potential NTSC or DTV facilities on other DTV or NTSC facilities, as based on desired-to-undesired ratio parameters defined in OET-69. A typical TVIXSTUDY analysis summary includes technical parameters of the proposed DTV or NTSC facility, along with its original (pre-modification) technical parameters, if any. Also included is a listing of each protected DTV and/or NTSC facility or allotment with associated interference-free population tabulations and the unique interference population resulting from operation of the proposed facility. TVIXSTUDY is similar to the program TVCOVSTUDY, which instead predicts the interference-limited coverage of a selected facility.

The results of the OET-69 algorithm are dependent on the use of computer databases, including terrain, population, and FCC engineering records. FCC Rules §0.434(e) specifically disclaims the accuracy of its databases, recommending the use of primary data sources (*i.e.*, paper documents), which is not practical for DTV interference analyses. Further, while Hammett & Edison, Inc. endeavors to follow official releases and established precedents on the matter, FCC policy on DTV analysis methods is constantly changing. Thus, the results of OET-69 interference and coverage studies are subject to change and may differ from FCC results.

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* It is noted that the Longley-Rice model is not always capable of determining, within certain confidence limits, whether a particular cell has service. In such cases, the Longley-Rice algorithm returns an error code; the FCC method for handling such error codes is to assume that the associated cells have interference-free service and, as such, are not further considered. The Hammett & Edison TVIXSTUDY program reports the number of such error cells for a given study and provides the option of generating a map showing their locations, which may be useful for further review using other propagation analysis tools.

Station KFBB-TV • Great Falls, Montana

OET-69 Interference Study

Interference analysis
tvixstudy 2.2.7

Study parameters:
  Minimum-power DTV service truncated at NTSC Grade B contour
  Longley-Rice errors handled by FCC method

Original station parameters:
          Station: D39 KFBBDT
             City: GREAT FALLS, MT
      Coordinates: N 47-32-08.0
                   W 111-17-02.0
      Height AMSL: 1224.0 m
      Maximum ERP: 1000 kW
  Azimuth pattern: DTV0878 (replication)

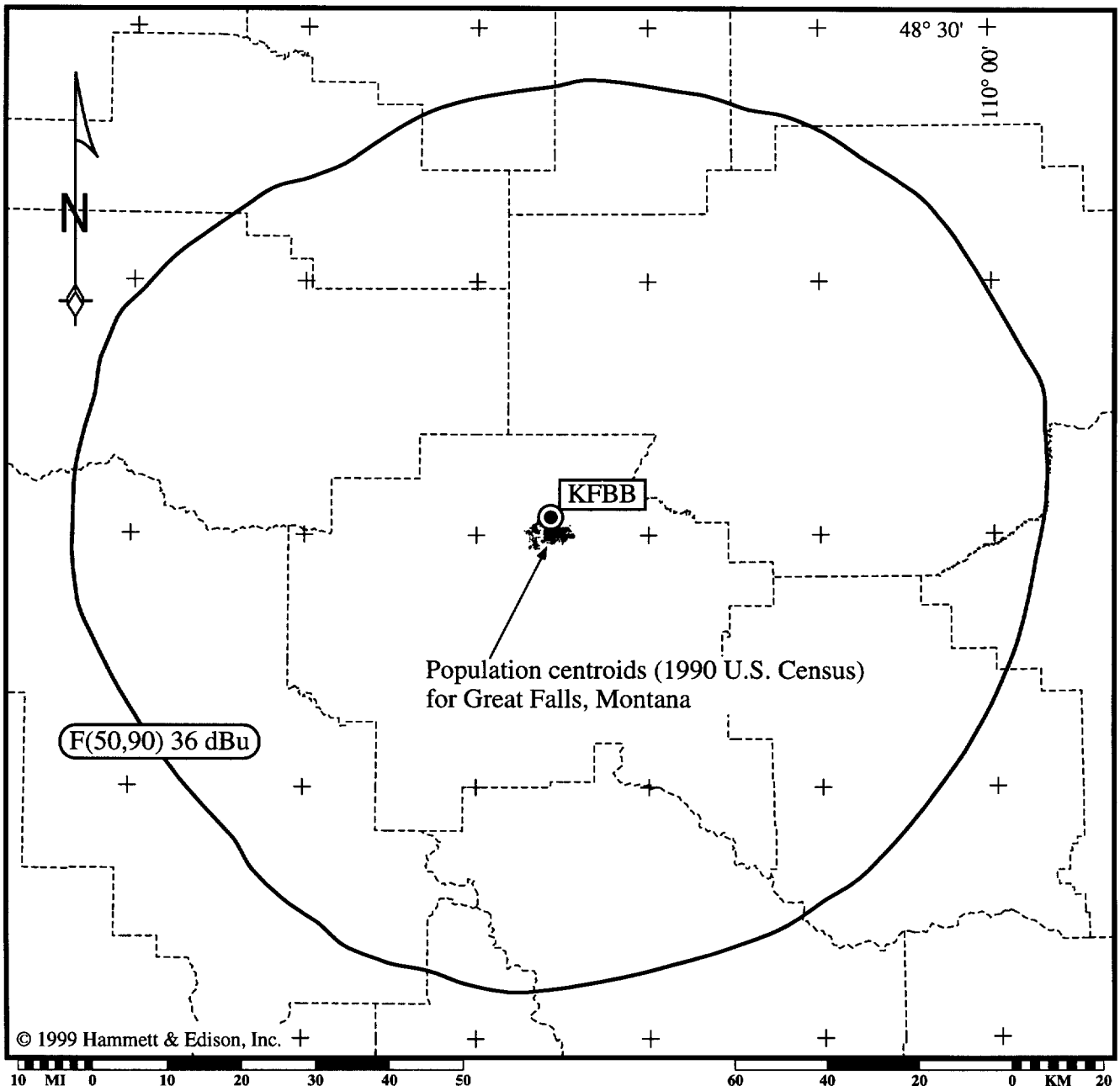
Modified station parameters:
          Station: D08 KFBBDT
             City: GREAT FALLS, MT
      Coordinates: N 47-32-08.0
                   W 111-17-02.0
      Height AMSL: 1224.0 m
      Maximum ERP: 160 kW
  Azimuth pattern: omnidirectional

Protected station		BasePop 1000s	IX Change 1000s	%Base	UniqIX 1000s
N08 CFCNTV8 LIC	MEDICINE HAT, AB	56	0	0.0	0
N08 CBUBT9 LIC	FERNIE, BC	43	0	0.0	0
N08 KULRTV LIC	BILLINGS, MT	128	0	0.0	0
N07 KCTZ LIC	BOZEMAN, MT	61	0	0.0	0
N09 KUSM LIC	BOZEMAN, MT	46	0	0.0	0
N08 KPAXTV LIC*	MISSOULA, MT	130	0	0.0	0
N09 KBBJ CP	HAVRE, MT	23	0	0.0	0

* Short spaced

Station KFBB-TV • Great Falls, Montana

Coverage Contour for Proposed DTV Operation of KFBB-DT on Channel 8 with 160 kW ERP Omnidirectional at 180 m HATT



Geographic coordinate marks shown at 30-minute increments. Azimuthal equidistant map projection. Dots represent 1990 U.S. Census Blocks.